



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/327,525	10/21/94	CHEE	M 16528X82

REES, EXAMINER

18M2/0709

VERN NORVIEL  
TOWNSEND AND TOWNSEND KHOURIE AND CREW  
STEUART STREET TOWER  
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SAN FRANCISCO CA 94105

ART UNIT	PAPER NUMBER
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1807

44 13

DATE MAILED:

07/09/96

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**08/327,525**

Applicant(s)  
**CHEE ET AL.**

Examiner  
**Dianne Rees**

Group Art Unit  
**1807**



☒ Responsive to communication(s) filed on 10/12/94, FAX OF 5/20/96

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 60-105 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 60-105 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 12

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

### **Part III DETAILED ACTION**

The Applicant's arguments filed 5/20/96 have been thoroughly reviewed. Rejections and/or objections not reiterated from the previous office action are hereby withdrawn. The following rejections and/or objections are either newly applied or are reiterated. They constitute the complete set being presently applied to the present application. Response to applicant's arguments follow.

#### ***Specification***

1. The disclosure is objected to because of the following informalities:

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 C.F.R. 1.821 (a)(1) and (a)(2). However this application fails to comply with the requirements of 37 C.F.R. 1.821-25 for the reasons set forth on the Attached Notice to Comply with Requirements for Patent Applications And/or Amino Acid Sequence Disclosures.

APPLICANT IS GIVEN ONE MONTH FROM THE DATE OF THIS LETTER WITHIN WHICH TO COMPLY WITH THE SEQUENCE RULES, 37 C.F.R. 1.821-25. Failure to comply with these requirements will result in ABANDONMENT of the application under 37 C.F.R. 1.821 (g). Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 C.F.R. 1.136. In No case may an applicant, extend the period for response beyond the six month statutory period. Direct the response to the undersigned. Applicant is requested to return a copy of the attached Notice to Comply with the response..

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. § 101 reads as follows:  
"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent

therefore, subject to the conditions and requirements of this title".

Claims 60-105 are rejected under 35 U.S.C. § 101 ~~because the~~  
~~claims are drawn~~ <sup>2/13/94</sup>. The claims are directed to a computer algorithm which is not applied in any manner to physical elements or process steps. See *In re Abele*, 214 USPQ 682 (CCPA 1982). See also *Arrythmia v. Corazonix* 22 USPQ 2d 1033 (Fed Cir 1992) and *Gelnovatch* 595 f. 2D AT 42, USPQ AT 145.

The claim should be amended so that if viewed without the algorithm the process could stand alone. Further steps which have been determined by the courts to represent "insignificant post solution activity" (i.e the last step of a claim) are storing a pure number, displaying a pure number and calculating a pure number.

#### ***Claim Rejections - 35 USC § 112***

3. Claims 60-105 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following phrases render the claims vague and indefinite:

Claim 60 is indefinite in the recitation of "comparing said plurality of probe intensities" in that it is not clear what the

probe intensities are compared to (each other? a standard value?).

Claim 60 is also indefinite in the recitation of "identifying said unknown bases according to the results of the comparing step" in that it is not clear how one extrapolates from "comparing" to "identifying" (in general this is a problem with all the independent claims).

Claim 64 is indefinite in reciting "the step of sorting said plurality of probe intensities" -it is unclear if the claim refers to ranking the probe intensities in some way and if so by what criteria the probe intensities are sorted or ranked.

Claim 70 is indefinite in reciting "the step of identifying said unknown base according to said probe associated with a highest third ratio" in that it is not clear how the base is identified "according to said probe" (i.e. what characteristic of the probe "identifies" the unknown base).

Claim 72 (see also claim 94) is indefinite in the recitation of "neighboring nucleic acid probes"; it is unclear whether "neighboring" defines probes that are immediately adjacent to a probe or encompasses a larger area. Clarification is requested.

note to  
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re count

Claim 81 (see also claim 92) is indefinite in reciting "identifying said unknown base according to a nucleic acid probe..." See above.

Claim 83 is indefinite in reciting "the step of sorting".  
See above.

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Claims 60-105 are allowable over the prior art of record. The closest prior art of record is Weiss and Stockham who teach equations and formulas for sharpening signal peaks derived from electrophoretic migration patterns of nucleic acid ladders. Weiss and Stockham do not teach or fairly suggest a method of inputting probe intensities to identify an unknown base where the probe intensities indicate the extent of hybridization of probes differing by a single base and the same nucleic acid as recited in the base claim, claim 60.

No claims are allowed..

Papers related to this application may be submitted to Group 1800 by facsimile transmission via the P.T.O. Fax Center located in Crystal Mall 1. The CM1 Fax Center number is (703) 305-7401. Please note that the faxing of such papers must conform with the notice to Comply published in the Official Gazette, 1096 OG 30 (Nov 15, 1989).

An inquiry regarding this communication should be directed to examiner Dianne Rees, Ph.D., whose telephone number is (703) 308-6565. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones, can be reached on (703) 308-1156.

Calls of a general nature may be directed to the Group receptionist who may be reached at (703) 308-0196.

Dianne Rees  
Dianne Rees

July 8, 1996

  
W. GARY JONES  
SUPERVISORY PATENT EXAMINER  
GROUP 1800

7/8/96